MEETING MINUTES
Rocky Flats Natural Resource Trustee Technical Staff Meeting
June 20, 2000

Welcome: Joe Legare welcomed all participants and explained that since there has not been a meeting for some time, DOE was soliciting input from the Trustee representatives. He requested suggestions from the attendees on the frequency of additional meetings, discussion issues, and format of the meetings. He explained that the topics for this meeting were related to surface water quality and were selected by DOE for their relative importance and relationship to upcoming cleanup actions. He asked that they consider these points throughout the presentations of this meeting's topics and it would be re-visited during the Wrap-up portion at the end of the meeting.

Meeting Direction: Cliff Franklin explained how the main regulatory driver for the natural resource damages resides in CERCLA Section 107. Natural Resource Trustees are designated by the President for federal resources and designated by the Governor for state resources. The Trustees are re-affirmed in RFCA as Secretary of Energy, Secretary of Interior, Colorado Attorney General, Executive Director of Colorado Department of Public Health and Environment, and Deputy Director of Colorado Department of Natural Resources. Cliff stressed that these technical staff meetings are intended for ensuring cooperation and coordination of activities related to natural resources, not for developing long-term land use decisions, determination of natural resource damages, or discussions of political solutions.

903 Pad Cleanup Activities: Norma Castaneda

Over 5,000 drums of plutonium turnings with cutting oils and chlorinated volatile compounds were stored on the ground surface of the 903 Pad area from 1958 through 1967. Drums were removed by June of 1968. Some radiological contamination detection and monitoring was conducted during 1968 through 1970. The area was then graded and covered by coarse material and an asphalt cap. In 1998, a soil contamination investigation was performed to provide characterization data for subsequent evaluation of remedial alternatives for site cleanup. The project utilized a high purity germanium detector for the in-situ delineation of radioactively contaminated soil in the Americium Zone. Over 1,100 measurements with a circular field of view of 10 meters in diameter were conducted within the investigation area. Contamination of surface and subsurface soils at 903 Pad and Lip Area was delineated with data obtained from borings at evenly spaced grid notes. The results indicated that most surface soils were contaminated with Pu239/240 and Am 241 within the 0 to 6 inches. Radioactive contamination, with Pu and Am, was detected in subsurface soil at depths 6-12 inches and 12-18 inches but decreased by orders of magnitude at these lower levels. Assuming complete removal of the entire 903 Pad asphalt area, 3.4 acres would need to be removed. The area that exceeds the Tier I levels is 5.07 acres, while those areas that exceed the Tier II levels are 17.94 acres.

Questions & Answers:

Q. Doug Young: Is there any air transport of contamination (air space between asphalt and soil)?

A: No, however there are some areas exposed in the lip area.

Q: Steve Gunderson: Is the date correct in the baseline summary? It shows a 2003 start date, EPA would start earlier if they manage the remediation.

A: The date shown is for the K-H schedule.

Comment: John Rampe: The 903 pad characterization report will be out in the next week or two. There will be a briefing to CAB on report in late July, or early August.

Q: Doug Young: Is the remedy decision on the 903 pad on a separate track from the IROD?

A: Decisions on caps, etc. remedies area at a higher level in IROD. The IROD is a RFCA integrating document. It does not list specific IHSS remedies, but addresses the strategy for remaining environmental restoration.

Comment: Joe Legare defined the 903 pad and Americium zone on the site map so attendees were aware of discussion item relationship to rest of site.

Q: Doug Young: Is the Remedial Interim Document (RID) process set up for another focus group? Are stakeholders involved in 903 pad, RSALS?

A: John Rampe: RSALS are currently under discussion with stakeholders. Process ongoing through end of year. First meeting for stakeholders on June 29, with a wider public meeting scheduled for July 13.

Solar Ponds Plume Collection and Treatment System: Norma Castaneda

One of the innovative applications to protect the environment and surface water supplies is the use of a passive barrier and treatment system to remediate contaminated groundwater. The Solar Ponds plume collection and treatment system was installed in 1999, and its system was designed to meet water quality standards of 100mg/l nitrate and 10pCi/l uranium in North Walnut Creek. The original planned treatment cell location was changed because it would have required construction in Preble's Meadow Jumping Mouse habitat. It was moved further up the hill, which meant that 11 feet of head was required for flow into the new cell position. The system is collecting and treating water as designed. There is some water that is not going through the treatment cell, but seeps below the system, and percolates into the stream below. Additional samples are being collected to monitor the system performance. With regard to natural resources sensitivity, the project was removed from Preble's habitat, has added water back into the drainage system, disturbed areas have been re-seeded to native vegetation, and it is creating wetlands in the infiltration gallery area.

Q: Doug Young: If the cells are underground is the water pumped or collected by gravity?

2

A: Norma showed on schematic viewgraph how system works, with water collecting in the collection trench until it reaches a level high enough to flow into and through the treatment system. It has not yet collected enough volume to ensure the system is working correctly. The system has only collected 2 full volumes so far, and need to have 3 to 5 volumes to determine operating efficiency. However, nitrate levels are currently decreasing at surface water station 095.

Q. Doug Young: Did this natural decrease occur before the system came on line?

A. Yes, this decrease occurred prior to full operation.

Comment: Joe Legare stated that RFETS has installed 3 systems and the life cycle will be beyond 2006, so thoughts that Trustees need to consider are: future use of those systems, will they be left in place for perpetuity, or removed at end of projected life.

Actinide Migration Study: Russell McCallister

The Actinide Migration Evaluation (AME) was established to provide guidance on issues of actinide behavior and mobility in surface water, groundwater and soil environments. The group draws upon external advisory members, state-of-the-art scientific understanding of actinide chemistry, geochemistry, migration and erosion transport to help characterize current environmental conditions at the Site and recommend/identify research/techniques that can be used to solve short and long term Site issues. Past performance includes the development of a conceptual model to document understanding of potential migration pathways, plutonium and uranium solubility issues, and several key environmental chemistry colloidal issues. Currently, the group is developing watershed erosion models for the Woman and Walnut Creek drainages, determining chemical form of Pu/Am from industrial area sources, and Pu/Am groundwater pathway evaluations (aseptic sampling of groundwater wells).

Q. Doug Young: Were you able to duplicate Dr. M. Iggy Litaor's results?

A. The researchers determined that Dr. Litaor's conclusions were not correct. Some data was missing in his study. Solubility studies were conducted in the laboratories, which could not be duplicated using field data.

Q. Doug Young: Was there a problem in the data collection method?

A. Litaor did a sampling method with sample bottles just collecting samples as he moved around. His sampling techniques may not have had the integrity necessary for a good sample. With a sample bottle approach, perhaps he inadvertently introduced soil particles into the bottle. In addition, some inferences were made on reducing conditions that couldn't be replicated.

Q. Bob Stewart: If the Kd approach is not correct, are there any approaches that are?

A. The Kd approach is not correct when dealing with Pu, however, it is correct when dealing with uranium. The Kd number is a finite number to use in a dose-based exposure model, while in the real world there is a range of values and a probabilistic approach may be more appropriate.

Q, Bob Stewart: Are there other relevant approaches?

3

A. The watershed erosion transport models are the more relevant approach to determine movement of Pu particles.

Q. Doug Young: How many public meetings have you had and what has been the turnout?
A. We've had 8 to 10 public meetings and generally the same 20 people turn out

Q. Doug Young: Are you looking at other pathways, such as air?
A. Yes, although the air pathway is not the prominent pathway. We are looking at the air pathway from the fire standpoint and have gathered some data from the test burn made this year, however the amount of data is limited.

Q. Doug Young: Do you know the re-suspension mechanism for fires?
A. Know there is some re-suspension, probably from the wind after the vegetation is removed. The time of re-growth of the vegetation is important for reducing the affect of winds on the ground surface.

Q. Bob Stewart: What are D&D and ER?
A. ER stands for Environmental Remediation and D&D means Deactivation and Demolition.

Q. Doug Young: When will the report on soil erosion/surface water sediment transport model be complete?
A. Most of the modeling done, using data from Woman Creek and the South Interceptor Ditch (SID), however, surface water data need to be applied to validate the model.

Q. Doug Young: Are results being fed into the RSALS review?
A. Steve Gunderson: That is part of it, but the draft *erosion control model* report is not out yet, but should be next month.

Q. Robin Romero: Is Rock Creek being left out because there isn't any Pu there?
A. That is correct, there isn't any contamination in that area.

Q. Doug Young: Will the ultimate model make determinations on the amount of soil to excavate?
A. It may include tying RSALS into surface water standards, or it may just be used to determine management of the area.

Comment: Steve Gunderson: The Site has to meet surface water standards on site.
Comment: John Rampe: We will have to take the model and "bounce the results off of reality", and not assume blanket application. It may be applied in selected situations, such as at a couple of monitoring stations or a couple of problematic areas.
Comment: Bob Nininger: The RSAL number generated from a model may not be important other then to indicate problem areas, or as a tool to determine priorities of work areas, or type of activity.

Surface Water Management: John Stover

An overview of surface water management with maps of the existing drainage features and detention ponds was presented. Current and recent actions were reviewed. The Site is actively involved with the Big Dry Creek Watershed Association to ensure a watershed approach to Site water resource management. Water management at the Site is in transition with significant planning activities underway. The major planning actions are the Water Balance Study and the Water Management Closure Plan. There is close coordination between surface water management, the Environmental Restoration program, and Actinide Migration Evaluation. Site water has been effectively isolated from the watershed by past practices. The Site is using the Watershed Approach to integrate Site surface water back into the Big Dry Creek Watershed. The timing is right for Trustees input to the Plans. Trustee involvement with surface water management planning and the Watershed Approach are consistent with the goals of the Clean Water Action Plan.

Q. Sean Bell: Do treatment structures discharge to ponds?
A. Yes, There are diffuse discharges to the streams above the ponds which flow to the A & B Series ponds.

Comment: Steve Schiesswohl: The drainage link between Rocky Flats Lake and Woman Creek is not used.

Q. Robin Romero: Do the industrial area activities affect Rock Creek?
A. No. The elevation changes, with the ridge between Rock Creek and Walnut Creek, so none of the surface flow from the rest of the site enters the Rock Creek drainage.

Comment: The Water Balance Study will also factor into, and be important for the Environmental Restoration work.

Q. Bob Stewart: To what extent will you use USGS, NRCS, etc, to assist in water management?
A. We are part of the Big Dry Creek Watershed Association which includes USGS, EPA, and the Natural Resources Conservation Service. The group was initially formed just to look at DOW concerns, but has expanded beyond that.

Q. Dan Miller: Are you looking at the effects of reduced water flows after closure and whether they have to augmented with purchased water to preserve habitat.
A. The Water Balance Study will address the reduced flow scenario with associated possible impacts evaluated later.

Meeting Wrap-up: Joseph Legare

Joe stressed that these meetings were intended to provide communication on a regular basis with the necessary staff specialists, so Trustees are able to feel comfortable with the resultant outcomes associated with closure activities. The question was posed to the

attendees about the meeting structure; was it adequate or was there a more productive way to utilize the participants time.

Q. Robert Stewart: Do people perceive there is a communication problem between technical staff? If not, use these meetings to communicate information and garnish input on specific projects.

A. There is a lot of interaction already, however, often we're not clear on what "hat" people are wearing. Are they wearing their regulatory hat or their Trustee hat? There are several other forums where Trustee input should be occurring, where conflicts may occur with their regulatory hat, and I'm not sure which hat is being worn.

Comment: John Rampe: The current communications system is not designed to look at Natural Resource Damage issues, it leans more toward the compliance issues.

Comment: Robert Stewart: That is an anomaly of the MOU itself, it deals with assistance and remedial planning. With the murky structure it deals with protection, integration and enhancement separately. We need to think about, and focus on what natural resources protections and mitigations have or will take place and build into actual cleanup.

Comment: John Rampe: That's really what we are after.

Comment: Robert Stewart: Then structure meetings to put those issues on the table.

Comment: Joe Legare: We can focus on one subject per meeting, and put those issues in context.

Comment: Dan Miller: The meetings should work within the scope of the MOU and interactions focused on mitigation. There hasn't been anything addressed for damages that have already occurred. There are damages to look at now where mitigation options should be available for restoration. These options may be foreclosed if they aren't included in the restoration activities now. Look at the option of importing water if necessary to maintain biodiversity.

Comment: John Rampe: RFETS has a very active natural resource management program. Perhaps we need to separate CERCLA damages from actions available for optimal management opportunities.

Comment: Robert Stewart: Perhaps we need to crosswalk from mitigation (compensation) to enhancement activities above and beyond where we are now.

Comment: Dan Miller: Has to be used to compensate for damages.

Comment: John Rampe: Perhaps the next meeting could be used to review the 2006 baseline and "on-the-ground" damages. Does the 2006 baseline adequately address those damages and mitigation activities?

Comment: Joe Legare: Sounds like we need to make meetings more interesting. Discussions on mitigation, enhancement, offsets and an understanding of all three. We will send out minutes of this meeting and come up with a structure for the next meeting and send that out to you for input.

Q. Joe Legare: Is it important that all Principals get together to lend support to the process?

Comment: Robert Stewart: Unless necessary to brief on status at policy level, with substantive discussions, not much point to have Principals meeting.

Comment: Dan Miller: Until there is a closure plan, with approaches to natural resource mitigation, including options, there isn't any need for a Principal's meeting.

Comment: Steve Gunderson: If engineered controls for surface water are needed, the principals may want to look at implications. Once DOE is gone, what will happen?

Comment: Robert Stewart: There needs to be a good communication process on ongoing issues. There is a need to know in timely fashion on activities involving Trustees. Trustees may have their own suites of issues and shouldn't rely on standard public processes for NRDA issues.

Comment: We appreciate your attendance and the feedback from you. The meeting minutes and attendance sign up sheet will be sent out to you. We'll develop a structure and topic for the next meeting and send to you prior to scheduling the next meeting.

7/1